

REMARKS

This is a full and timely response to the Office Action mailed November 8, 2006, submitted concurrently with a two month Extension of Time to extend the due date for response to April 8, 2007.

By this Amendment, claim 1 has been amended to overcome the rejection under 35 U.S.C. §112, first paragraph. Support for the claim amendments can be readily found variously throughout the specification and the original claims, see, in particular, original claims 1 and 2. Thus, claims 1, 4-6 and 8 are currently pending in this application.

Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

Rejection under 35 U.S.C. §112

Claims 1, 4-6 and 8 are rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement. Applicant respectfully traverses this rejection. However, in the interest of expediting the prosecution of the present application, Applicant has deleted the range of each rubber ("~~20-30 parts by weight of a natural rubber (NR)~~" and "~~at least 40 parts by weight of a polybutadiene rubber (BR)~~") in claim 1 which should overcome the Examiner's concerns. Thus, withdraw of this rejection is respectfully requested.

Applicant believes that amended claims 1, 4-6 and 8 remain unobvious over the teachings and suggestions of Tetsuji (JP-08269241A), Blumel et al. (U.S. Patent 3,520,954), Georget et al. (U.S. Patent 6,251,977) and Obrecht et al. (U.S. Patent 6,579,945) for essentially the same reasons as that set forth in Applicant's amendment filed September 5, 2006.

To establish a *prima facie* case of obviousness, the cited references must either alone or in combination teach or suggest the invention as a whole, including all the limitations of the claims. Here, in this case, the combination of Tetsuji, Blumel et al., Georget et al. and Obrecht et al. do not teach all of the limitations of the claims.

As defined in amended claim 1, the present invention is directed to a peroxide-crosslinkable rubber composition comprising

(A) a rubber component comprising, as required components, (i) a natural rubber (NR) and (ii) a polybutadiene rubber (BR),

(B) a polar polymer composed of a blend of ethylenically unsaturated nitrile-conjugated diene-based high saturation copolymer rubber and the metal salt of the ethylenically unsaturated carboxylic acid (e.g., HNBR/ZnMA composite), and

(C) a carbon black having an N_2SA of $70 \text{ m}^2/\text{g}$ or less.

As shown in Examples II-1 to II-5 of the present specification, the claimed peroxide-crosslinkable rubber composition possesses superior run flat durability, without decreasing modulus etc. Such superior properties are completely absent from the disclosures of Tetsuji, Blumel et al., Georget et al. and Obrecht et al. In other words, the teachings of Tetsuji, Blumel et al., Georget et al. and Obrecht et al. never disclose or suggest that the combinations of ingredients (A), (B) and (C) in the amounts defined in the claims would result in a peroxide-crosslinkable rubber composition possessing superior run flat durability while not decreasing modulus. As the Examiner already knows, a showing of superior and unexpected properties can rebut a *prima facie* case of obviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

Tetsuji discloses a rubber composition capable of directly bonding to a conventional rubber such as a diene-based rubber, with high hardness by using (i) a nitrile-based copolymer rubber (e.g., hydrogenated NBR), (ii) a zinc salt of methacrylic acid and (iii) SBR and/or BR. The rubber composition of Tetsuji is different from the present invention in the following points.

(a) The use of a natural rubber (NR), which is one of the required components of the present invention, is completely absent in Tetsuji. NR is only used in Comparative Example 4 of Table I of Tetsuji, in which the hardness, E' (or dynamic modulus) and peel strength are all poor.

(b) The use of carbon black having an N_2SA of $70 \text{ m}^2/\text{g}$ or less is neither disclosed nor taught in Tetsuji. Tetsuji only discloses in paragraph [0012] that a conventional filler can be used in the composition. Even in the Examples and Comparative Examples, the use of carbon blacks is not mentioned at all. The “Seast 300” used in Examples I-1 to I-4, especially in Examples I-2 and I-4, has an N_2SA of $82 \text{ m}^2/\text{g}$, and the “HTC#100” and HTC#G” used in Examples II-1 to II-5 have an

N₂SA of 35 and 25 m²/g, respectively, whereas the “Shoblack N339” used in Comparative Examples II-4 has an N₂SA of 90 m²/g. Thus, it is clear that the use of the specified carbon black having an N₂SA of 70 m²/g or less is completely absent in Tetsuji.

Blumel et al. discloses a rubber composition containing polybutadiene and cold rubber i.e. SBR, NBR (see column 2, lines 17-24, of Blumel). However, based on Applicant’s review, it appears that NR is not disclosed in the composition of Blumel, except that BR has already been blended with NR in lines 24-25 of column 1. Thus, Applicant believes that there is no motivation in Blumel et al. to use NR in Tetsuji

It should also be noted that both of the citations, Blumel et al. and Tetsuji, do not teach the use of the claimed rubber compositions for a run flat tire as claimed in amended claims 5 and 6. Still further, Blumel et al. does not teach the use of an organic peroxide as claimed in claim 8 of the present application.

The deficiencies of Blumel et al. and Tetsuji is not cured by the teachings of Georget et al. Georget et al. only discloses the use of carbon blacks in an elastomer composition containing EPDM. Thus, the use of the specified carbon black in the claimed rubber composition containing NR and BR, together with, for example, HNBR/ZnMA, is neither disclosed nor taught in Georget et al.

Likewise, Obrecht et al. only discloses the use of the various carbon blacks having an N₂SA of 20-200 m²/g in a rubber composition. In other words, Obrecht et al. does not specifically teach the use of carbon black having an N₂SA of 70 m²/g or less and the superior run flat property achieved by the present invention. In addition, although Obrecht et al. teaches the use of NR, BR, SBR or SIBR, and further NBR or CR, the use of NR and BR with, for example, HNBR/ZnMA composite is completely absent in Obrecht et al.

Lastly, Amino et al. discloses the use of carbon black having an N₂SA of 5-200 m²/g. However, there is no motivation in Amino et al. to modify or combine the other cited references to arrive at the claimed rubber composition containing BR and NR, together with, for example, HNBR/ZnMA for the purpose of a run flat tire.

In essence, although the cited references each arguably teach certain aspects of the present invention, the cited references do not teach or suggest the combination of the claimed

components of the present invention which results in the superior run flat property achieved by the present invention. For example, both Obrecht et al. and Amino et al. arguably disclose a range of N₂SA which overlaps with the present invention. However, the disclosed ranges are too broad, and thus does not teach the superior run flat property achieved by the combination of the claimed components of the present invention such as the use of carbon black having an N₂SA of 70 m²/g or less.

In formulating the present rejection by the use of four references, Applicant believes that the Examiner's arguments as supported by the cited references constitutes hindsight reconstruction since the significance of requirements set forth in the claims are not derived from the teachings and suggestions of the cited references but instead, are derived from Applicant's own disclosure. Hence, the Examiner is clearly practicing hindsight reconstruction based on the teachings of the present application. As the Examiner already knows, when determining obviousness under 35 U.S.C. §103, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143, 229 USPQ 182, 187 (Fed. Cir. 1986).

Thus, for these reasons, withdrawal of the present rejection is respectfully requested.

CONCLUSION

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

Dated: April 6, 2007

Respectfully submitted,

By 

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